



Louisville Metro Air Pollution Control District
701 West Ormsby Avenue, Suite 303
Louisville, Kentucky 40203-3137



June 14, 2022

Title V Construction Statement of Basis

Source: Clariant Corporation (Louisville West Plant)
1227 South 12th Street
Louisville, KY 40210

Owner: Clariant Corporation
500 E. Morehead Street
Charlotte, NC 28202

Application Documents: See Table I-7

Draft Permit: May 13, 2022

Permitting Engineer: Karen Thorne

Permit Number: C-0036-22-0010-V

Plant ID: 0036

SIC: 2819

NAICS: 325188

Introduction:

This permit will be issued pursuant to District Regulation 2.03, Authorization to Construct or Operate; Demolition/Renovation Notices and Permit Requirements. Its purpose is to provide methods of determining continued compliance with all applicable requirements.

This construction permit is for changes and/or modifications to nineteen of the emission units (units W03, W05, W09, W11, W12, W14, W22, W23, W25, W35, W36, W39, W42, W51, W53, W54, W57, W58, and W70) of Clariant West Plant to correct certain reported deviations, including previously unpermitted equipment, changes in control devices, and other changes in plant operations that should have been reported to the District, as alleged in APCD Notice of Violation ENF-APCD-21-00013.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO₂), carbon monoxide (CO), particulate matter less than 10 microns (PM₁₀), particulate matter less than 2.5 microns (PM_{2.5}), and sulfur dioxide (SO₂). Jefferson County is classified as a nonattainment area for ozone (O₃).

Permit Application Type:

☒ Initial issuance

Permit Revision

☐ Permit renewal

☐ Administrative

☐ Minor

☐ Significant

Compliance Summary:

☒ Compliance certification signed

☐ Compliance schedule included

☒ Source is out of compliance

☐ Source is operating in compliance

I Source Information

1. Process Description

Clariant Corporation – Louisville West Plant manufactures customized precipitated catalysts and catalyst carriers.

2. Site Determination

Clariant Corporation is the parent company and operates two facilities in Louisville, the South plant at 4900 Crittenden Drive and the West plant at South 12th Street. Based on information obtained from the company and the criteria used by EPA to make single source determinations, the District has determined that both locations are separate sources. Both locations would have to meet the following three criteria in order to be considered one single source for Title V and PSD/NSR applicability:

- Same industrial grouping,
- Common ownership or control, and
- Contiguous or adjacent locations.

Both locations have the same first two digit SIC code (28).

Both are 100% owned and operated by their parent company.

Neither location is contiguous or adjacent. Each plant acts independently of the other, operating separate production lines, with minimal transfer of material between plants that is commercially available from other suppliers. Furthermore, there are no Clariant Corporation dedicated transportation links between the plants.

3. Emission Unit Summary

Emission Unit	Equipment Description
201-W02	Sodium aluminate and sodium carbonate tanks
201-W03	Powder calcining, weighing, mixing, compacting, grinding, tableting and tablet calcining
201-W05	First Chemical Manufacturing; Mixing and forming of metal oxide catalysts
201-W09	Material Transfer and #3 Rotary Calciner
201-W11 and 201-W12	#1 and #2 Spray Dryers and Slurry Manufacturing
201-W14	Reactors
203-W22	C Kiln Manufacturing; Heat treating of catalyst carriers
203-W23	Catalyst drying

Emission Unit	Equipment Description
203-W25	Specialty Extrusion Manufacturing; Raw material weighing, mixing, forming, drying and calcining
204-W35	Dipping System; Impregnation of catalyst carriers with various metal ions by spraying with metal salt solutions
204-W36	Small Eirich Mixing System; Mixing of metal oxides with additives prior to extrusion
204-W39	C28 Manufacturing; Mixing, forming, drying, and fine grinding of metal oxide catalysts
204-W42	Box Dryers and Sergeant Dryer System
220-W51	Acid Unloading System
220-W53 and 220-W54	Nickel nitrate system, reforming catalysts, and rotary calcination.
251-W57	G84 Styrene System; Production of process catalyst pellets. Powder and liquid weighing, mixing, extrusion and pellet drying and calcining
204-W58	Product mixing system
203-W70	ENVICAT System

4. Fugitive Sources

There are fugitive PM/PM₁₀/PM_{2.5}, VOC, HAP, NO_x and TAC emissions from the manufacturing of customized precipitated catalysts and catalyst carriers.

5. Permit Revisions

Permit No.	Public Notice	Issue Date	Change Type	Description/Scope
C-0036-22-0010-V	05/14/22 - 06/13/22	06/14/22	Initial	Changes and/or modifications to nineteen of the emission units (units W03, W05, W09, W11, W12, W14, W22, W23, W25, W35, W36, W39, W42, W51, W53, W54, W57, W58, and W70)

6. Application and Related Documents

Document Number	Date	Description
235684	12/1/21	Confidential PTE (flash drive)
235685	12/1/21	Public PTE (flash drive)

Document Number	Date	Description
178637	12/2/20	Updated STAR EA demonstration and PTE (email)
221489	12/2/20	Updated STAR EA demonstration AERMOD files
221490	12/2/20	Updated STAR EA demonstration SCREEN3 files
178778	12/4/21	Permit deviations
186370	02/02/21	Public Modification Application
186363	02/02/21	Confidential Modification Application
233614	07/01/21	Stack test and updated STAR EA demonstration
235425	7/7/2021	Updated STAR EA demonstration
235701	7/9/2021	Updated public PTE
235700	7/9/2021	Updated confidential PTE
334345	08/02/21	Updated W70 equipment public
334344	08/02/21	Updated W70 equipment confidential
253310	08/31/21	Confidential application updates for W36, W39, W53, W57
253311	08/31/21	Public application updates for W36, W39, W53, W57
286999	09/09/21	Updated public PTE
287000	09/09/21	Updated confidential PTE
286993	09/24/21	W02 Tank replacement public application
286994	09/24/21	W02 Tank replacement confidential application
286992	09/24/21	W02 Tank replacement public emission calculations
286991	09/24/21	W02 Tank replacement confidential emission calculations
328841	04/01/22	Draft permit informal comments from company
335336	04/14/22	EU W09 copper emissions

7. Emission Summary

Pollutant	Project Potential to Emit (PTE) Emissions (tpy)	Pollutant that triggered Major Source Status (based on PTE)
CO	1.98	No
NO _x	86.83	*Yes

Pollutant	Project Potential to Emit (PTE) Emissions (tpy)	Pollutant that triggered Major Source Status (based on PTE)
SO ₂	46.52	No
PM/PM ₁₀ /PM _{2.5}	104.22	*Yes
VOC	137.90	*Yes
Total HAPs	39.67	*Yes
Single HAP > 1 tpy		
Triethylamine	32.75	*Yes

* The source has accepted synthetic minor limits for these pollutants.

8. Applicable Requirements

- | | | |
|------------------------------------|---|---|
| <input type="checkbox"/> 40 CFR 60 | <input checked="" type="checkbox"/> SIP | <input checked="" type="checkbox"/> 40 CFR 63 |
| <input type="checkbox"/> 40 CFR 61 | <input checked="" type="checkbox"/> District Origin | <input type="checkbox"/> Other |

9. Referenced Federal Regulations

40 CFR 63 Subpart VVVVVV, *National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources*

10. Non-Applicable Regulations: None

II Regulatory Analysis

1. Acid Rain Requirements

The source is not subject to the Acid Rain Program.

2. Stratospheric Ozone Protection Requirements

Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. This source does not manufacture, sell, or distribute any of the listed chemicals. The source's use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.

3. Prevention of Accidental Releases 112(r)

The source does not manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68, Subpart F, and District Regulation 5.15, Chemical Accident Prevention Provisions, in a quantity in excess of the corresponding specified threshold amount.

4. 40 CFR Part 64 Applicability Determination

The source is not a major source, because the source has taken synthetic minor limits for all criteria pollutants; therefore, this source is not subject to 40 CFR Part 64 - *Compliance Assurance Monitoring*.

5. Basis of Regulation Applicability

a. Applicable Regulations

Regulation	Title	Basis
2.04	Construction or Modification of Major Sources In or Impacting Upon Non-Attainment Areas (Emission Offset Requirements)	Establishes requirements for the construction, modification of stationary sources within, or impacting upon, areas where the NAAQS have not been attained
2.05	Prevention of Significant Deterioration of Air Quality	Establishes requirements for the prevention of deterioration of air quality in regions of the country that currently meet the NAAQS
2.16	Title V Operating Permits	Establishes requirements for the operating of Title V permits
5.00 (STAR)	Definitions	Establishes definitions of terms used in the Strategic Toxic Air Reduction Program (STAR)
5.01 (STAR)	General Provisions	Establishes the requirements for Environmental Acceptability for Toxic Air Contaminants (TACs)
5.20 (STAR)	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	Establishes the methodology for determining the benchmark ambient concentration of a TAC
5.21 (STAR)	Environmental Acceptability for Toxic Air Contaminants	Establishes the criteria for determining the environmental acceptability of emissions of TACs
5.22 (STAR)	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	Establishes the procedures for determining the maximum ambient concentration of a TAC
5.23 (STAR)	Categories of Toxic Air Contaminants	Establishes categories of TACs

Regulation	Title	Basis
6.09	Standards of Performance for Existing Process Operations	Establishes emission standards for processes that emit PM which were installed on or before September 1, 1976
7.08	Standards of Performance for New Process Operations	Establishes emission standards for processes that emit PM which were installed after September 1, 1976
7.25	Standard of Performance for New Sources Using Volatile Organic Compounds	Establishes VOC standards for affected facilities constructed after June 13, 1979
40 CFR 63 Subpart VVVVVV	National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources	Applies to equipment emitting hazardous air pollutants.

b. Plantwide

- i. The Clariant West Plant is a major source for PM/PM₁₀/PM_{2.5}, VOC, NO_x, single HAP, and total HAPs. Regulation 2.16 - *Title V Operating Permits* establishes requirements for major sources. To preclude the requirements of Regulation 2.04, Construction or Modification of Major Sources In or Impacting Upon Non-Attainment Areas, and Regulation 2.05, Prevention of Significant Deterioration of Air Quality, the source is subject to a plant-wide limit of less than 100 tons during any consecutive 12-month period for PM/PM₁₀/PM_{2.5}, NO_x, and VOC. Pursuant to Regulation 2.16, section 4.1.1, the source is required to limit the plant-wide emissions of any individual HAP to less than 10 tons during any consecutive 12-month period. For all HAPs combined, the source is required to limit the plant-wide emissions of all HAPs to less than 25 tons during any consecutive 12-month period.
- ii. Regulation 2.03, section 6.1 requires sufficient monitoring, record keeping, and reporting to assure ongoing compliance with the terms and conditions of the permit. The owner or operator shall maintain all the required records for a minimum of 5 years and make the records readily available to the District upon request.
- iii. Regulations 5.00 5.20, 5.21, and 5.23 (STAR Program) establishes requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards. Clariant Corp. – Louisville West Plant emits the following TACs subject to the STAR program (Regulations 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23): ammonia (NH₃), cobalt and cobalt compounds (Co), chromiumtrivalent and chromium compounds (Cr(III)), chromiumhexavalent and chromium compounds (Cr(VI)), copper and copper compounds

(Cu), hydrochloric acid (hydrogen chloride (HCl)), manganese and manganese compounds (Mn), nickel and nickel compounds (Ni), nitric acid (HNO₃), sulfuric acid (H₂SO₄), and triethylamine. The facility submitted their TAC Environmental Acceptability Demonstration to the District August 3, 2016, revised September 16, 2016, revised December 16, 2016, February 11, 2020, December 4, 2020, and July 1, 2021. Compliance with the STAR EA Goals was demonstrated in the source's EA Demonstrations.

At the time of permit issuance, the de minimis values are as follows.

Pollutant	De Minimis		Averaging	Category
	lb/hr	lb/avg.	Period	
Trivalent chromium and chromium compounds (Cr(III))	0.1	0.1	8-hour	1
Hexavalent chromium and chromium compounds (Cr(VI)),	0.000045	0.04	Annual	1
Nickel and nickel compounds (Ni)	0.0021	1.82	Annual	1
Ammonia	54.00	48,000	Annual	2
Cobalt and cobalt compounds (Co)	0.00022	0.19	Annual	2
Copper and copper compounds (Cu)	0.04	0.047	8-hour	2
Hydrochloric acid (HCl)	10.80	9,600	Annual	2
Manganese and manganese compounds (Mn)	0.027	24.00	Annual	2
Nitric acid (HNO ₃)	1.00	1.00	8-hour	2
Sulfuric acid (H ₂ SO ₄)	0.54	480.00	Annual	2
Triethylamine	3.78	3,360	Annual	4

The carcinogen risk and non-carcinogen risk values comply with the STAR EA goals required in Regulation 5.21, as noted in the following table.

EU	EP	TAC	Risk		HQ	
			Unadjusted (Process EAG _C ≤ 1.0)	Industrial (Process EAG _C ≤ 10.0)	Unadjusted (Process EAG _{NC} ≤ 1.0)	Industrial (Process EAG _{NC} ≤ 3.0)
W03	H-201-W03-465/COM-201-W03-465/M-201-W03-465	Cu	--	--	0.115	0.12
		Ni	0.063	0.065	0.017	0.018
	H-201-W03-462	Cu	--	--	0.057	0.059
	H-201-W03-470	Cu	--	--	0.057	0.059
	TM-201-W03-470	Cu	--	--	0.061	0.063
	PD-201-W03-475/ PD-201-W03-476	Cu	--	--	0.061	0.063

EU	EP	TAC	Risk		HQ	
			Unadjusted (Process EAG _C ≤ 1.0)	Industrial (Process EAG _C ≤ 10.0)	Unadjusted (Process EAG _{NC} ≤ 1.0)	Industrial (Process EAG _{NC} ≤ 3.0)
W07/ W23	T-201-W07-505, HT-203-W23-534, HT-203-W23-542	HNO ₃	--	--	0.36	0.36
W09	DD-201-W09-001/ H-201-W09-001	Cu	--	--	0.10	0.106
W12	SD-201-W12-230	Cu	--	--	0.150	0.165
	SD-201-W12-230	Mn	--	--	0.048	0.053
W55	HT-250-W55-801	Cr(VI)	0.730	1.270	0.0076	0.013
	HT-250-W55-801B	Cr(VI)	0.220	0.410	0.0023	0.0042
	HT-250-W55-701	Cr(VI)	0.079	0.140	0.00082	0.0014
	FD-250-W55-702	Cr(VI)	0.079	0.140	0.00082	0.0014
	FD-250-W55-703	Cr(VI)	0.079	0.140	0.00082	0.0014
	H-250-W55-801	Cr(VI)	0.046	0.130	0.00047	0.0014
Plantwide R_C (All Processes):			1.30	2.28	--	--
Plantwide R_C (New Processes)¹:			1.09	1.88	--	--
Highest Plantwide HQ for single TAC (copper):					0.602	0.636

* Plantwide R_C for unadjusted new and modified ≤ 3.8 and unadjusted total ≤ 7.5;
Plantwide R_C for industrial new and modified ≤ 38.0 and industrial total ≤ 75.0

** Plantwide HQ for unadjusted total ≤ 1.0; plantwide HQ for industrial total ≤ 3.0

iv. EU 212-W47 was demolished beginning in 2015 and EU and 212-W48 was demolished beginning in 2014.

v. The PM control efficiencies for baghouses used by Clariant are based on the following stack tests. The control efficiency for PM is also used for PM TACs/HAPs: hexavalent chromium and chromium compounds (Cr(VI)), trivalent chromium and chromium compounds (Cr(III)), nickel and nickel compounds (Ni), ammonia (NH₃), cobalt and cobalt compounds (Co), copper and copper compounds (Cu), hydrochloric acid (hydrogen chloride) (HCl), manganese and manganese compounds (Mn), nitric acid (HNO₃), sulfuric acid (H₂SO₄), antimony and antimony compounds (Sb) and radon and other radionuclides (U).

Bag Type	Control Efficiency	Tested Control Device	Test Date
MAC 80/20	99.8%	DC-203-W25-128	May 4, 2021, reported July 1, 2021
Mott tubes	99.96%	DC-101-S16-117	Oct. 8, 2020, reported Nov. 9, 2020
Nomex	99.8%	DC-201-W12-250	May 5, 2021, reported July 1, 2021

¹ New processes include H-201-W03-465/COM-201-W03-465/M-201-W03-465, H-201-W03-462, H-201-W03-470, PA-201-W03-490, TM-201-W03-470, T-201-W07-505/HT-203-W23-534/HT-203-W23-542, HT-250-W55-801, HT-250-W55-801B, HT-250-W55-701, FD-250-W55-702, and FD-250-W55-703.

Bag Type	Control Efficiency	Tested Control Device	Test Date
Polyester	99.6%	DC-101-S15-112	May 6, 2021, reported July 1, 2021
Torit UltraWeb Cartridge	99.7%	DC-201-W03-500	July 22, 2020, reported Oct. 1, 2020
DC-204-W36-001	92.8%	DC-204-W36-001	July 21, 2020, reported Oct. 1, 2020

All other baghouses are assumed to have a 95% control efficiency.

HEPA filters are assumed to have a 99.97% control efficiency, based upon manufacturer's certification.

c. Emission Unit 201-W02: Sodium aluminate and sodium carbonate tanks

EP	Description	Install Date	Applicable Regulations	Control ID
T-201-W02-003	Sodium carbonate tank	New	7.08	NA

i. Standards

(1) Opacity

Regulation 7.08, section 3.1.1, establishes a standard for opacity to not equal or exceed 20%.

(2) PM/PM₁₀/PM_{2.5}

Regulation 7.08, section 3.1.2, establishes PM standards for process equipment.

d. Emission Unit 201-W03 – Copper Zinc Tableting; powder calcining, weighing, mixing, compacting, grinding, tableting and tablet calcining

EP	Description	Install Date	Applicable Regulations	Control ID
H-201-W03-465/COM-201-W03-465/M-201-W03-465	Compactor System (Compact Hopper, Compactor and Compactor Mills)	2005	7.08, STAR, 40 CFR 63 VVVVVV	DC-201-W03-500
TM-201-W03-470 ²	Tabletting Machine	2019		
PD-201-W03-475/PD-201-W03-476	Product drums			

Some equipment added in 2019, and reflected in the February 2, 2021, application, was removed: Denseveyors (DV-201-W03-471/472), Hopper (H-201-W03-473), Screener (SCR-201-W03-474), and Bin Vent (BV-201-

² Tableting machine was replaced per application 2/2/2021. The new rate is 500 lbs/hr.

W03-475). The Tablet Packager drumming operation (PA-201-W03-490) was renamed as product drums (PD-201-W03-475/PD-201-W03-476).

Control ID	Description	PM Control Efficiency
DC-201-W03-500	Donaldson (99.7%), Model Torit Downflo II 3-24 [Torit UltraWeb Cartridge type]	99.7%

i. Standards

(1) HAP

EP TM-201-W03-470 and PD-201-W03-475/PD-201-W03-476 are subject to 40 CFR 63 Subpart VVVVVV

(2) Opacity

Regulation 7.08, section 3.1.1, establishes a standard for opacity to not equal or exceed 20%.

(3) PM/PM₁₀/PM_{2.5}

Regulation 7.08, section 3.1.2, establishes PM standards for process equipment.

(4) TAC

(a) The owner or operator shall not allow manganese or nickel emissions to exceed de minimis levels from TM-201-W03-470 and PD-201-W03-475/PD-201-W03-476.

(b) The owner or operator shall not allow the TAC emissions to exceed the levels in the table below.

EP	Pollutant	Emission Limit (lb/12-consecutive months)³
H-201-W03-465/COM-201-W03-465/M-201-W03-465	Copper	103.03
H-201-W03-465/COM-201-W03-465/M-201-W03-465	Nickel	2.37
H-201-W03-462	Copper	51.52
H-201-W03-470	Copper	51.52
TM-201-W03-470	Copper	54.95

³ For EP TM-201-W03-470 and PD-201-W03-475/PD-201-W03-476, the facility modeled 6.27E-03 lb/hr copper emissions using SCREEN3 (each).

EP	Pollutant	Emission Limit (lb/12-consecutive months) ³
PD-201-W03-475/PD-201-W03-476	Copper	54.95

- (c) The potential TAC emissions for the emission points in the table below are less than de minimis, with the levels of control.

EP	Cu	Mn	Ni
H-201-W03-465/COM-201-W03-465/M-201-W03-465	Over de minimis	1 st	Over de minimis
H-201-W03-462	Over de minimis	1 st	1 st
H-201-W03-470		1 st	1 st
TM-201-W03-470	Over de minimis	1 st	1 st
PD-201-W03-475/PD-201-W03-476			

- e. **Emission Unit 201-W05** – First Chemical Manufacturing; Mixing and forming of metal oxide catalysts

EP	Description	Install Date	Applicable Regulations	Control ID
MX-201-W05-102 ⁴	Sigma mixer	1998	7.08	NA
MX-201-W05-103 ⁴	Sigma mixer	1998	7.08	NA
T-201-W05-102 ⁵	Precipitator Tank	1998		FR-201-W05-102 FIL-201-W05-102

Control ID	Description	PM Control Efficiency
FR-201-W05-102	Bin Vent Polyester Filter, Macawber Engineering, Model SP1170-304SS [Polyester type]	99.6%
FIL-201-W05-102	Cartridge Filter, Vac-U-Max	95%

i. Standards

(1) Opacity

⁴ Powder raw materials will now be processed in the W05 sigma mixers per application sent in 2/2/2021. Products will be limited to wet products or dry powders with no TACs/HAPs.

⁵ Control device ED-201-W05-108 was replaced with FR-201-W05-102 and FIL-201-W05-102 for this tank.

Regulation 7.08, section 3.1.1, establishes a standard for opacity to not equal or exceed 20%.

(2) PM/PM₁₀/PM_{2.5}

Regulation 7.08, section 3.1.2, establishes PM standards for process equipment.

f. Emission Unit 201-W09 – Material Transfer and #3 Rotary Calcliner

EP	Description	Install Date	Applicable Regulations	Control ID
DD-201-W09-001/ H-201-W09-001 ⁶	Drum Dumper/ Feed Hopper	1966	6.09, STAR	DC-201- W09-001
PD-201-W09-001 ⁷	Product Drum	1966		

Control ID	Description	PM Control Efficiency
DC-201- W09-001	MAC 80/20, MAC Equipment Inc., Model 3MTF6 [MAC 80/20 type]	99.8%

i. Standards

(1) Opacity

Regulation 6.09, section 3.1.1, establishes a standard for opacity to not equal or exceed 20%.

(2) PM/PM₁₀/PM_{2.5}

Regulation 6.09, section 3.2, establishes PM standards for process equipment.

(3) TAC

- (a) The owner or operator shall not allow copper emissions to exceed de minimis levels from PD-201-W09-001.
- (b) The owner or operator shall not allow copper emissions to exceed 84.01 lb/12-consecutive month period from DD-201-W09-001/H-201-W09-001.
- (c) The potential TAC emissions for the emission points in the table below are less than de minimis, with the listed levels of control.⁸

⁶ DD-201-W09-001/H-201-W09-001 was connected directly to DC-201-W09-001.

⁷ The product drum (PD-201-W09-001) for the rotary calciner discharge was not included in the permit. PD-201-W11-001 was included to permit it for the same TACs as SD-201-W11-130A.

⁸ For emission points over de minimis, the company provided SCREEN3 modeling on 02/22/2022 which meets the EA goals.

EP	Cu
DD-201-W09-001/H-201-W09-001	Over de minimis
PD-201-W09-001	1 st

g. Emission Unit 201-W11, 201-W12 and 201-W17 – #1 and #2 Spray Dryers and Slurry Manufacturing

EU	EP	Description	Install Date	Applicable Regulations	Control ID
201-W11 ⁹	T-201-W11-002	Mixing tank	1990	7.08	DC-201-W17-001
	T-201-W11-005	Mixing tank	1990	7.08	
	DD-201-W11-110/ T-201-W11-110	Drum dumper/ tank	1965	6.09	NA
	T-201-W11-006	Nitric acid pot	1990	STAR	NA
	SD-201-W11-130 ¹⁰ and SD-201-W11-130A	#1 Spray Dryer (83.99%), 6 MMBTU/hr	2016	7.08, STAR, 40 CFR 63 VVVVVV	SEP-201-W11-140 DC-201-W11-150
		#1 Spray Dryer (83.99%), 6 MMBTU/hr, product A			SEP-201-W11-140 SEP-201-W12-145 ED-201-W12-270 SC-201-W12-275
	PD-201-W11-001	Product drum	1965	7.08, STAR, 40 CFR 63 VVVVVV	DC-201-W11-150
201-W12 ¹¹	SD-201-W12-230b ^{12, 13}	Spray Dryer	1966	7.08, STAR, 40 CFR 63 VVVVVV	SEP-201-W12-240 SEP-201-W12-260 DC-201-W12-250

⁹ T-201-W11-002, T-201-W11-005, and T-201-W11-006 (not currently included in the permit) are being moved from EU U17. PD-201-W11-001 is being permitted to allow TAC emissions.

¹⁰ SD-201-W11-130 does not generate TACs, per the application dated 6/7/2016.

¹¹ Nickel products are no longer processed in this emission unit per application sent in on 2/2/2021.

¹² Clariant requested to reduce the output rate of SD-201-W12-230b to 500 lbs/hr, based on the permitted capacity of the product drum and the rate achieved during testing.

¹³ The control train for SD-201-W12-230b was changed to SEP-201-W12-240, SEP-201-W12-260 and DC-201-W12-250.

	PD-201-W12-002 ¹⁴	Cyclone Fines Drum	1966		DC-201-W12-250
201-W17	FR-201-W17-001 ¹⁵	Filter Receiver (99.8%) [MAC 80/20] Mixing Tank, 2500 lb/hr	2006	7.08	NA

Control ID	Description	PM Control Efficiency
DC-201-W17-001	Baghouse, Donaldson Torit DFT2-12 [Torit UltraWeb Cartridge type]	99.7%
DC-201-W11-150	Baghouse, Aeropulse, Model 216-8-20 [Nomex type]	99.8%
SEP-201-W11-140	Cyclone, G.H. Hicks	75%
SEP-201-W11-145	Cyclone, Fisher-Klosterman Emtrol, Model XQ-120-16	97.654%
ED-201-W12-270	Eductor, Schutte & Koerting, Model 7010	95%
SC-201-W12-275	Scrubber, WW Sly, Model 240 Impinjet Packed Tower Scrubber	95%, 75% VOC
SEP-201-W12-240/ SEP-201-W12-260	One (1) Cyclone, G.H. Hicks and one (1) Power Cyclone, Aerodyne Development Co. Power Cyclone 6000 (efficiency based on stack test performed May 5, 2021 and reported July 1, 2021, utilizing the production rate (429 lb/hr) for this spray dryer and the DC-201-W12-250 inlet rate (23.2 lb/hr), as described in the <i>List of Representative Devices for Stack Test</i> document, submitted April 8, 2020)	94.6%
DC-201-W12-250	Baghouse, MikroPul, Model Unknown [Nomex type]	99.8%

(1) HAP

EP PD-201-W11-001, SD-201-W12-230b, and PD-201-W12-002 are subject to 40 CFR 63 Subpart VVVVVV

(2) Opacity

Regulations 6.09, section 3.1, and 7.08, section 3.1.1, establish a standard for opacity to not equal or exceed 20%.

¹⁴ PD-201-W11-002 should be permitted for the same TACs as SD-201-W12-230b.

¹⁵ This equipment does not have a control device, per the application submitted on 08/26/2022.

(3) PM/PM₁₀/PM_{2.5}

Regulations 6.09, section 3.2, and 7.08, section 3.1.2, establish PM standards for process equipment.

(4) TAC

- (a) The owner or operator shall not allow nickel, manganese or chromium III emissions to exceed de minimis levels from SD-201-W11-130A and PD-201-W11-001.
- (b) The owner or operator shall not allow nitric acid emissions to exceed de minimis levels from T-201-W11-006.
- (c) The owner or operator shall not allow copper or manganese emissions to exceed de minimis levels from SD-201-W12-230b and PD-201-W11-002.
- (d) The potential TAC emissions for the emission points in the table below are less than de minimis, with the listed levels of control.

EU	EP	Cu	HNO ₃	NH ₃	Cr(III)	Mn	Ni
201-W11	PD-201-W11-001	--	--	--	unc.	unc.	1 st
	T-201-W11-006	--	unc.	unc.	--	--	--
	SD-201-W11-130A	--	--	--	2 nd	3 rd	3 rd
201-W12	PD-201-W12-002	1 st	--	--	--	unc.	--
	SD-201-W12-230 ¹⁶	Over de minimis	--	--	--	Over de minimis	--

--" This emission point has no emissions of the specified TAC.

(5) VOC

Regulation 7.25 establishes a plant-wide VOC limit of 5 tons per year for all affected facilities, unless Best Available Control Technology (BACT) level of control is utilized to reduce the VOC emissions.

h. Emission Unit 201-W14 – Reactors

EP	Description	Install Date	Applicable Regulations	Control ID
T-201-W14-004 ¹⁷	Specialty Reactor	1990	ED-201-W07-590 V-201-W07-595	STAR
T-201-W14-002 ¹⁸	Large Scale Tank	1990	NA	7.08

¹⁶ This emission point exceeds de minimis controlled, but the company provided SCREEN3 modeling on 12/4/2020 which meets the EA goals.

¹⁷ Equipment was previously named T-201-W14-003. Per application sent in 2/2/2021, the tank no longer processes powder products and ammonia. It will no longer be permitted for PM, manganese, or ammonia.

¹⁸ Tanks T-201-W14-002 and T-201-W14-005 were not included in the permit.

T-201-W14-005	Pre-Mix Tank	1990	NA	7.08
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Control ID	Description	PM Control Efficiency
ED-201-W07-590	Eductor T-002, Schutte & Koerting Model 7014 L	75%
V-201-W07-595	Two-stage packed column wet scrubber (2 stages)	75%/75%

(1) HAP

EP T-201-W14-004 is subject to 40 CFR 63 Subpart VVVVVV

(2) Opacity

Regulation 7.08, section 3.1.1, establishes a standard for opacity to not equal or exceed 20%.

(3) PM/PM₁₀/PM_{2.5}

Regulation 7.08, section 3.1.2, establishes PM standards for process equipment.

(4) TAC

- (a) The owner or operator shall not allow nitric acid emissions to exceed de minimis levels from T-201-W14-004
- (b) The potential uncontrolled nitric acid emissions from EP T-201-W14-004 are less than de minimis.

i. Emission Unit 203-W18 – Screening System

Emission Point	Description	Install Date	Applicable Regulations	Control ID
DD-202-W18-001	Drum Dumper 1	1967	6.09, STAR, 40 CFR 63 VVVVVV	DC-202-W18-001 DC-202-W18-005 FIL-202-W18-001
H-202-W18-001	Hopper 1			
FD-202-W18-001	Feeder 1			
VS-202-W18-001	Screener 1			
PD-202-W18-001	Product Drum 1	1967	6.09, STAR, 40 CFR 63 VVVVVV	DC-202-W18-002 DC-202-W18-005 FIL-202-W18-001
DD-202-W18-002	Drum Dumper 2			
H-202-W18-002	Hopper 2			
BD-202-W18-002	Big Bagger 2	1967	6.09, STAR, 40	DC-202-W18-003 DC-202-W18-005
DD-202-W18-003	Drum Dumper 3			
H-202-W18-003	Hopper 3			

Emission Point	Description	Install Date	Applicable Regulations	Control ID
FD-202-W18-003	Feeder 3		CFR 63 VVVVVV	FIL-202-W18-001
VS-202-W18-003	Screener 3			
PD-202-W18-003	Product Drum 3			
DD-202-W18-004	Drum Dumper 4	1967	6.09, STAR, 40 CFR 63 VVVVVV	DC-202-W18-004 DC-202-W18-005 FIL-202-W18-001
H-202-W18-004	Hopper 4			
FD-202-W18-004	Feeder 4			
VS-202-W18-004	Screener 4			
PD-202-W18-004	Product Drum 4	1975	6.09, STAR, 40 CFR 63 VVVVVV	DC-202-W18-004 DC-202-W18-005 FIL-202-W18-001
DD-202-W18-005	Drum Dumper 5			
H-202-W18-005	Hopper 5			
VS-202-W18-005	Screener 5			
FD-202-W18-005	Feeder 5			
PD-202-W18-005	Product Drum 5			

Control ID	Description	PM Control Efficiency
DC-202-W18-001	Baghouse 201, Torit, Model DFT-2-8, 2008 [Torit UltraWeb Cartridge] (99.7% PM)	99.7%
DC-202-W18-002	Baghouse 202, Consolidated Engineering, Model WS-25-8, 1967 [Torit UltraWeb Cartridge]	99.7%
DC-202-W18-003	Baghouse 203, Torit, Model DFT-2-8, 2008 [Torit UltraWeb Cartridge]	99.7%
DC-202-W18-004	Baghouse 204, Torit, Model DFT-2-8, 2008 [Torit UltraWeb Cartridge]	99.7%
DC-202-W18-005	Baghouse 205, Torit, Model DFT-3-12, 2008 [Torit UltraWeb Cartridge]	99.7%
FIL-202-W18-001	HEPA Filter 205H, Donaldson, Model Ultralock, 2008	99.97%

(1) HAP

EU 201-W18 is subject to 40 CFR 63 Subpart VVVVVV

(2) Opacity

Regulation 6.09, section 3.1, establishes a standard for opacity to not equal or exceed 20%.

(3) PM/PM₁₀/PM_{2.5}

Regulation 6.09, section 3.2, establishes PM standards for process equipment.

(4) TAC

- (a) The owner or operator shall not allow TAC emissions of cobalt, copper, chromium(III), chromium(VI), manganese, or nickel to exceed de minimis levels from EU 201-W18.
- (b) The potential TAC emissions for the emission points in the table below are less than de minimis, with the listed levels of control.

Emission Point	Co	Cr(III)	Cr(VI)	Cu	Mn	Ni
BD-202-W18-002, DD-202-W18-001/H-202-W18-001, DD-202-W18-002/H-202-W18-002, DD-202-W18-003/H-202-W18-003, DD-202-W18-004/H-202-W18-004, DD-202-W18-005/H-202-W18-005	3 rd	2 nd	3 rd	2 nd	2 nd	3 rd
FD-202-W18-001, FD-202-W18-003 FD-202-W18-004, FD-202-W18-005 PD-202-W18-001, PD-202-W18-003, PD-202-W18-004	3 rd	2 nd	3 rd	2 nd	2 nd	2 nd
PD-202-W18-005, VS-202-W18-001 VS-202-W18-003, VS-202-W18-004, VS-202-W18-005	3 rd	2 nd	3 rd	2 nd	2 nd	3 rd

j. Emission Unit 203-W22¹⁹ – C Kiln Manufacturing; Heat treating of catalyst carriers

EP	Description	Install Date	Applicable Regulations	Control ID
HT-201-W22-900 ²⁰	Tunnel Kiln, 8 MMBtu/hr	2000	7.08, 7.09, 7.25	NA

For EU 203-W22 and 203-W25, Clariant requested to discontinue calculating nitric acid as dust emissions. The facility ascertains that any free nitric acid remaining from this process would be driven off as part of the drying process and reported as part of scrubbing system chain, converted to NOX and reported as part of scrubbing system chain, or completely decomposed to elemental Nitrogen due to temperature of process operation

i. Standards

(1) NOx

¹⁹ Per application sent in 2/2/2021, Clariant requested to discontinue calculating nitric acid as dust emissions.

²⁰ VOC emitting products are no longer processed in HT-203-W22-900.

Regulation 7.08, section 4.1, establishes a standard for NO_x not to exceed 300 ppmv, expressed as NO₂.

(2) Opacity

Regulation 7.08, section 3.1.1, establishes a standard for opacity to not equal or exceed 20%.

(3) SO₂

Regulation 7.09, section 4 establishes a standard of 28.63 grains per 100 dscf at 0% excess oxygen for process gas streams that commenced on or after April 19, 1972.

k. Emission Unit 203-W23²¹ – Catalyst Drying

EP	Description	Install Date	Applicable Regulations	Control ID
HT-203-W23-534	Box Dryer, Wisconsin Oven, 2.5 MMBTU/hr	2003	STAR, 7.08, 7.25	ED-203-W23-150 SC-203-W23-550
HT-203-W23-542	Box Dryer, Wisconsin Oven, 2.5 MMBTU/hr	2003		

Control ID	Description	Control Efficiency
ED-203-W23-150	Jet venturi fume scrubber, CR Clean Air, Model 20x24/96V	75% NO _x & Nitric Acid, assuming 0% VOC & SO ₂
SC-203-W23-550	Packed-bed Scrubber with Mesh Pad	75% NO _x & Nitric Acid, assuming 0% VOC & SO ₂

i. Standards

(1) NO_x

Regulation 7.08, section 4.1, establishes a standard for NO_x not to exceed 300 ppmv, expressed as NO₂.

(2) TAC

- (a) The owner or operator shall not allow nitric acid emissions to exceed 1576.80 lb per 12-consecutive month period from each box dryer HT-203-W23-534 and HT-203-W23-542.
- (b) The potential TAC emissions for the emission points in the table below are less than de minimis, with the listed levels of control.

²¹ Ammonia emissions are no longer generated in this process.

EP	Triethylamine ²²	HNO ₃
HT-203-W23-534	1 st	Over de minimis
HT-203-W23-542	1 st	

(3) VOC

Regulation 7.25 establishes a plant-wide VOC limit of 5 tons per year for all affected facilities, unless Best Available Control Technology (BACT) level of control is utilized to reduce the VOC emissions.

I. Emission Unit 203-W25²³ – Specialty Extrusion Manufacturing; Raw material weighing, mixing, forming, drying and calcining

EP	Description	Install Date	Applicable Regulations	Control ID
CV-203-W25-134 ²⁴	Belt Conveyor	2001	7.08, STAR	NA
T-203-W25-804 ²⁵	Nitric Acid Tote	2020		SC-203-W25-133
T-203-ACID-801 ²⁶	Acetic Acid Day Tank	2001	7.25	
T-203-ACID-802	HNO ₃ Day Tank	2001	STAR	

Control ID	Description	Control Efficiency
SC-203-W25-133	Packed-bed Scrubber with Mist Eliminator, Sly Model 54-72	95% (PM), 75% (NH ₃)

i. Standards

(1) Opacity

Regulation 7.08, section 3.1.1, establishes a standard for opacity to not equal or exceed 20%.

(2) PM/PM₁₀/PM_{2.5}

Regulation 7.08, section 3.1.2, establishes PM standards for process equipment.

²² Triethylamine emissions do not exceed de minimis levels with the limited processing rate and hours of operation.

²³ Per application sent in 2/2/2021, Clariant requested to discontinue calculating nitric acid as dust emissions.

²⁴ CV-203-W25-134 is no longer controlled by DC-203-W25-140; emissions are fugitive.

²⁵ EP T-203-W25-804 was not included in the permit.

²⁶ T-203-ACID-801 and T-203-ACID-802 are no longer controlled by ED-203-W25-205.

(3) TAC

- (a) The owner or operator shall not allow nitric acid emissions to exceed de minimis from T-203-ACID-802 and T-203-W25-804.
- (b) The potential uncontrolled nitric acid emissions from T-203-ACID-802 and T-203-W25-804 are less than de minimis.

(4) VOC

Regulation 7.25 establishes a plant-wide VOC limit of 5 tons per year for all affected facilities, unless Best Available Control Technology (BACT) level of control is utilized to reduce the VOC emissions.

- m. Emission Unit 204-W35 – Dipping System; Impregnation of catalyst carriers with various metal ions by spraying with metal salt solutions**

EP	Description	Install Date	Applicable Regulations	Control ID
H-204-W35-001 ²⁷	Hopper	2020	7.08	NA
CV-204-W35-001	Conveyor	2020	7.08	NA
MX-204-W35-001 ²⁸	Rotary Impregnator	1967	6.09, STAR, 40 CFR 63 VVVVVV	DC-204-W35-001

Control ID	Description	PM Control Efficiency
DC-204-W35-001	Fabric Filter, Donaldson, Model Torit 2DF-4 Downflo [Torit UltraWeb Cartridge type]	99.7%

i. Standards**(1) Opacity**

Regulation 6.09, section 3.1.1, establishes a standard for opacity to not equal or exceed 20%.

(2) PM/PM₁₀/PM_{2.5}

Regulation 6.09, section 3.2, establishes PM standards for process equipment.

²⁷ H-204-W35-001 and CV-204-W35-001 were installed at the facility.

²⁸ HAPs and TACs are no longer emitted from MX-204-W35-001 per application sent in 2/2/2021. Metals were associated with second pass carrier addition which is no longer used.

(3) TAC

- (a) The owner or operator shall not allow nitric acid emissions to exceed de minimis from MX-204-W35-001.
- (b) The potential uncontrolled nitric acid emissions for MX-204-W35-001 are less than de minimis.

n. Emission Unit 204-W36 – Small Eirich Mixing System; Mixing of metal oxides with additives prior to extrusion

EP	Description	Install Date	Applicable Regulations	Control ID
MX-204-W36-001 ²⁹	Eirich Mixer	1999	7.08, STAR, 40 CFR 63 VVVVVV	DC-204-W36-001 FIL-204-W36-002
BC-204-W36-004 ³⁰	Bag Compactor	2020	7.08	FIL-204-W36-004
BC-204-W36-005	Bag Compactor	2020	7.08	FIL-204-W36-005

Control ID ³¹	Description	PM Control Efficiency
DC-204-W36-001	Fabric Filter, Consolidated Engineering, Model P8 [Polyester type, but stack test for specific control]	92.8%
FIL-204-W36-002	HEPA filter, Donaldson Torit Model Ultra Lok 1x1	99.97%
FIL-204-W36-004	Filter sock	95%
FIL-204-W36-005	Filter sock	95%

i. Standards**(1) HAP**

EP MX-204-W36-001 is subject to 40 CFR 63 Subpart VVVVVV

(2) Opacity

Regulation 7.08, section 3.1.1, establishes a standard for opacity to not equal or exceed 20%.

(3) PM/PM₁₀/PM_{2.5}

²⁹ The equipment will be raising its processing rate to 1000 lb/hr per the application sent in 2/2/2021, based on the rate achieved during testing.

³⁰ Bag compactors (BC-204-W36-004 and BC-204-W36-005) have been added to the bag dump stations; they are equipped with filter socks FIL-204-W36-004 and FIL-204-W36-005.

³¹ The bin vent controls have been added in the application sent in 2/2/2021.

Regulation 7.08, section 3.1.2, establishes PM standards for process equipment.

(4) TAC

- (a) The owner or operator shall not allow emissions chromium(III) or copper to exceed de minimis levels from MX-204-W36-001.
- (a) The potential emissions of chromium(III) and copper from EP MX-204-W36-001 are less than de minimis, with the second level of control.

o. Emission Unit 204-W39 – C28 Manufacturing; Mixing, forming, drying, and fine grinding of metal oxide catalysts

EP	Description	Install Date	Applicable Regulations	Control ID
H-204-W39-417 ³²	Hopper	2000	7.08, STAR, 40 CFR 63 VVVVVV	DC-204-W32-407 FIL-204-W32-407

Control ID	Description	PM Control Efficiency
DC-204-W32-407	Baghouse [MAC 80/20 type]	99.8%
FIL-204-W32-407	HEPA Filter (99.97%)	99.97%

(1) HAP

EP H-204-W39-417 is subject to 40 CFR 63 Subpart VVVVVV

(2) Opacity

Regulation 7.08, section 3.1.1, establishes a standard for opacity to not equal or exceed 20%.

(3) PM/PM₁₀/PM_{2.5}

Regulation 7.08, section 3.1.2, establishes PM standards for process equipment.

(4) TAC

- (a) The owner or operator shall not allow nickel emissions to exceed de minimis levels from H-204-W39-417.

³² Nickel should be added to H-204-W39-417. Nickel was included in Clariant's 2009 STAR Demonstration but was not included in the permit.

- (b) The potential nickel emissions from EP H-204-W39-417 are less than de minimis in Regulations 5.00 and 5.21, with the second level of control.

p. Emission Unit 204-W42 – Box Dryers and Sergeant Dryer System

EP	Description	Install Date	Applicable Regulations	Control ID
CV-204-W42-003 ³³	Conveyor	2003	7.08, STAR, 40 CFR 63 VVVVVV	DC-204-W42-001 FIL-204-W42-001
HT-204-W42-001 ³⁴	Electric Belt Calciner	1980	7.08, 7.09, STAR, 40 CFR 63 VVVVVV	ED-204-W42-010 SEP-204-W42-001 SEP-204-W42-002

Control ID	Description	PM Control Efficiency
DC-204-W42-001	Baghouse, Torit, Model DFT 2-8 [Torit UltraWeb Cartridge type]	99.7%
FIL-204-W42-001	HEPA Filter, Donaldson Torit, Model Ultralok	99.97%
ED-204-W42-010	Eductor with BMF Mist Eliminator, SCI, Model 12"	95%
SEP-204-W42-001	Cyclone, Libco	75%
SEP-204-W42-002	Cyclone, Libco	75%

i. Standards

(1) HAP

EP CV-204-W42-003 and HT-204-W42-001 are subject to 40 CFR 63 Subpart VVVVVV

(2) Opacity

Regulation 7.08, section 3.1.1, establishes a standard for opacity to not equal or exceed 20%.

(3) PM/PM₁₀/PM_{2.5}

Regulation 7.08, section 3.1.2, establishes PM standards for process equipment.

³³ CV-204-W42-003 was added to the facility.

³⁴ SEP-204-W42-001 and SEP-204-W42-002 have been added as controls to HT-204-W42-001.

(4) SO₂

Regulation 7.09, section 4 establishes a standard of 28.63 grains per 100 dscf at 0% excess oxygen for process gas streams that commenced on or after April 19, 1972.

(5) TAC

- (a) The owner or operator shall not allow copper and nickel emissions to exceed de minimis levels from HT-204-W42-001 and CV-204-W42-003.
- (b) The potential TAC emissions for the emission points in the table below are less than de minimis, with the listed levels of control.

EP	HCl	Cu	Ni
CV-204-W42-003	--	1 st	1 st
HT-204-W42-001	Unc.	3 rd	3 rd

- q. Emission Unit 220-W51 – Acid Unloading System; Unloading of nitric acid and acetic acid from tanker trucks for storage in Building 20 and other locations within the plant**

EP	Description	Install Date	Applicable Regulations	Control ID
T-220-Acid-800 ³⁵	Nitric Storage Tank, 9,770 gal	2000	STAR	ED-220-W51-001

Control ID	Description	PM Control Efficiency
ED-220-W51-001	Eductor, Schutte & Koerting, Model 7014	75%

i. Standards**(1) TAC**

- (a) The owner or operator shall not allow nitric acid emissions to exceed de minimis levels from T-220-Acid-800.
- (a) The potential uncontrolled nitric acid emissions from T-220-Acid-800 less than de minimis.

(2) VOC

Regulation 7.12, section 1 applies to each storage vessel for VOC compounds that has a storage capacity greater than 250 gallons.

³⁵ T-220-ACID-800 has been re-purposed for nitric acid usage and is controlled by ED-220-W51-001; it no longer generates acetic acid emissions.

r. Emission Unit 220-W53 – Nickel Nitrate System, Reforming Catalysts Manufacturing, Rotary Calcination

EP	Description	Install Date	Applicable Regulations	Control ID
HT-220-W53-002HZ	Belt Calciner (Heating Zone)	1996	7.08	ED-220-W52-004 - 007 ED-220-W52-008 SC-220-W52-001 V-220-W54-001 (stage 1) V-220-W52-002 (stage 2)
HT-220-W53-002CZ	Belt Calciner (Cooling Zone)	1996		DC-220-W53-003 FIL-220-W53-006
HT-220-W53-002D	Belt Calciner (Discharge End)	1996		DC-220-W53-004 FIL-220-W53-007

HT-220-W53-002 is being separated into the following three emission points as the different zones generate different emissions and are controlled separately:

1. Heating zone: HT-220-W53-002HZ controlled by ED-220-W53-004 through 007 (in parallel) followed in series with ED-220-W52-004-008, SC-220-W52-001 and & V-220-W52-002;
2. Cooling zone: HT-220-W53-002CZ controlled by DC-220-W53-003 and FIL-220-W53-006; and
3. Discharge: HT-220-W53-002D controlled by DC-220-W53-004 and FIL-220-W53-007.

Control ID	Description	Control Efficiency
ED-220-W52-004	Eductor, Schutte & Koerting, Model 7014 L 8L 8	95% PM, 75% NO _x & Ammonia
ED-220-W52-005		
ED-220-W52-006		
ED-220-W52-007		
ED-220-W52-008		
SC-220-W52-001	Impingement Plate Scrubber, W. W. Sly, Model 330, 1996	95% PM, 75% NO _x & Ammonia
V-220-W54-001	Packed Scrubber Tower, Croll Reynolds, Model 30T-15-10H/48V	75% NO _x
V-220-W52-002	Packed Tower Scrubber #2, Croll Reynolds, Model 72T-10NOX	75% NO _x

Control ID	Description	Control Efficiency
DC-220-W53-003	Baghouse, Flex-Kleen, Model 226-CDCC-4-3-24	95% PM, 75% NO _x
DC-220-W53-004	Baghouse, Flex-Kleen, Model 226-CDCC-3-2-12	95% PM, 75% NO _x
FIL-220-W53-006	HEPA filter	99.97%
FIL-220-W53-007	HEPA filter	99.97%

i. Standards

(1) HAP

EP HT-220-W53-002HZ, HT-220-W53-002CZ, and HT-220-W53-002D are subject to 40 CFR 63 Subpart VVVVVV

(2) NO_x

Regulation 7.08, section 4.1, establishes a standard for NO_x not to exceed 300 ppmv, expressed as NO₂.

(3) Opacity

Regulation 7.08, section 3.1.1, establishes a standard for opacity to not equal or exceed 20%.

(4) PM/PM₁₀/PM_{2.5}

Regulation 7.08, section 3.1.2, establishes PM standards for process equipment.

(5) TAC

(b) The owner or operator shall not allow cobalt, copper, manganese, nickel, or chromium(III) emissions to exceed de minimis levels from HT-220-W53-002CZ and HT-220-W53-002D.

(a) The potential TAC emissions for the emission points in the table below are less than de minimis in Regulations 5.00 and 5.21, with the listed levels of control.

EP	Co	Cr(III)	Cu	Mn	Ni
HT-220-W53-002CZ	2 nd	Unc.	Unc.	Unc.	1 st
HT-220-W53-002D	2 nd	Unc.	2 nd	1 st	2 nd

s. **Emission Unit 220-W54 – Nickel Nitrate System, Reforming Catalysts Manufacturing, Rotary Calcination**

EP	Description	Install Date	Applicable Regulations	Control ID
DD-220-W54-005	Drum Dumper	1996	7.08, STAR, 40 CFR 63 VVVVVV	DC-220-W54-002 FIL-220-W54-002
H-220-W54-006	Hopper			
FD-220-W54-003A/B	Feeder/Belt Conveyor (only one operated at a time)			
VS-220-W54-020 ³⁶	Screener	1996	7.08, STAR, 40 CFR 63 VVVVVV	DC-220-W54-005 FIL-220-W54-005

Control ID	Description	PM Control Efficiency
DC-220-W54-002	Baghouse, Flex-Kleen, Model 226-CDCC-3-2-12(III), 1996	95% ³⁷
DC-220-W54-005	Baghouse, Flex-Kleen, Model 226-CDCC-4-3-24(III), 1996	95%
FIL-220-W54-002	HEPA Filter, Camill Farr 855210008, 2007	99.97%
FIL-220-W54-005		99.97%

i. **Standards**

(1) **HAP**

These emission points are subject to 40 CFR 63 Subpart VVVVVV

(2) **Opacity**

Regulation 7.08, section 3.1.1, establishes a standard for opacity to not equal or exceed 20%.

(3) **PM/PM₁₀/PM_{2.5}**

Regulation 7.08, section 3.1.2, establishes PM standards for process equipment.

(4) **TAC**

- (a) The owner or operator shall not allow chromium(III), chromium(VI), cobalt, manganese, or nickel

³⁶ VS-220-W54-020 has been repurposed to be used in the HT-220-W54-001b scenario and will be permitted for the same TACs.

³⁷ Baghouses DC-002 through DC-006 in Building 20 use a default control efficiency of 95%.

emissions to exceed de minimis levels from DD-220-W54-005, H-220-W54-006, or FD-220-W54-003A/B.

- (b) The owner or operator shall not allow chromium(III), chromium(VI), cobalt, copper, manganese, or nickel emissions to exceed de minimis levels from VS-220-W54-020.
- (c) The potential TAC emissions for the emission points in the table below are less than de minimis in Regulations 5.00 and 5.21, with the listed levels of control.

EP	Co	Cr(III)	Cr(VI)	Cu	Mn	Ni
DD-220-W54-005	2 nd	unc.	2 nd	--	1 st	2 nd
H-220-W54-006	2 nd	unc.	2 nd	--	1 st	2 nd
FD-220-W54-003A/B	--	--	--	--	2 nd	2 nd
VS-220-W54-020	2 nd	Unc.	2 nd	2 nd	1 st	2 nd

a. Emission Unit 220-W55 – Houdry System

EP	Description	Install Date	Applicable Regulations	Control ID
H-250-W55-802	Hopper	1993	7.08, STAR, 40 CFR 63 VVVVVV	DC-250-W55-901 FIL-250-W55-901
EPD-250-W55-401B	401B Emergency Drumout	2020	7.08	DC-250-W55-601

Control ID	Description	PM Control Efficiency
DC-250-W55-601	Baghouse, Mikro-Pulsaire, Model 500-S-20-20-C	99.8%
DC-250-W55-901	Baghouse, Torit, Model DFT 2-8	99.7%
FIL-250-W55-901	HEPA filter, Donaldson Model Ultra-Lok	99.7%

i. Standards

(1) HAP

EP H-250-W55-802 is subject to 40 CFR 63 Subpart VVVVVV

(2) Opacity

Regulation 7.08, section 3.1.1, establishes a standard for opacity to not equal or exceed 20%.

(3) PM/PM₁₀/PM_{2.5}

Regulation 7.08, section 3.1.2, establishes PM standards for process equipment.

(4) TAC

- (a) The owner or operator shall not allow chromium(III), emissions to exceed de minimis levels from H-250-W55-802.
- (b) The potential uncontrolled chromium(III) emissions from EP H-250-W55-802 are less than de minimis.

b. Emission Unit 251-W57³⁸ – G84 Styrene System

EP	Description	Install Date	Applicable Regulations	Control ID
CV-251-W57-004 ³⁹	Rework Conveyor	2009	7.08	DC-251-W57-001 FIL-251-W57-001
VS-251-W57-002	Vibratory Screener	2009		DC-251-W57-005 FIL-251-W57-001

Control ID	Description	PM Control Efficiency
DC-251-W57-001	Baghouse, Flex-Kleen 43/54-PSTH-121	95%
DC-251-W57-005	Baghouse, Flex-Kleen, Model 28/36-PVTL-25	95%
FIL-251-W57-001	HEPA Filter, Flex-Kleen Model Magna/Pack	99.97%

i. Standards**(1) Opacity**

Regulation 7.08, section 3.1.1, establishes a standard for opacity to not equal or exceed 20%.

(2) PM/PM₁₀/PM_{2.5}

Regulation 7.08, section 3.1.2, establishes PM standards for process equipment.

³⁸ Trivalent chromium and copper products are no longer processed in this emission unit.

³⁹ EP CV-251-W57-004 and VS-251-W57-002 have been added to the facility.

c. Emission Unit 204-W58 – Product mixing system

EP	Description	Install Date	Applicable Regulations	Control ID
CV-204-W58-003	Belt Conveyor	1998	7.08	NA
CV-204-W58-004	Belt Conveyor	1998	7.08	NA
HT-204-W58-001	Belt Dryer	1998	7.08	NA
PD-204-W58-001	Product Drum	1998	7.08	NA
CV-204-W58-123 ⁴⁰	Belt Conveyor	2001	7.08	NA
RS-203-W58-134	Rotary Screener	2001	7.08	NA
H-204-W58-002	Hopper	1999	7.08	NA
CV-204-W58-005	Belt Conveyor	1999	7.08	NA
SDR-204-W58-001	Spheredizer Drum	1999	7.08	NA

i. Standards**(1) Opacity**

Regulation 7.08, section 3.1.1, establishes a standard for opacity to not equal or exceed 20%.

(2) PM/PM₁₀/PM_{2.5}

Regulation 7.08, section 3.1.2, establishes PM standards for process equipment.

d. Emission Unit 203-W70 – ENVICAT System

EP	Description	Install Date	Applicable Regulations	Control ID
TT-203-W70-302B ⁴¹	Spiker Tote	2016	STAR	NA
DR-203-W70-501A/B ⁴²	Vacuum Tables (2)	2016		
P-203-W70-102, equipped with internal filter (95%)	Vacuum Conveyor	7.08	NA	NA

⁴⁰ CV-203-W25-123 and RS-203-W25-134 have been moved to Emission Unit W58 per application sent in 2/2/2021.

⁴¹ A second spiker tote has been added to the facility (TT-203-W70-302B).

⁴² DR-203-W70-501A and DR-203-W70-501B do not operate simultaneously. One is a back-up to the other. These will be permitted as one emission point.

EP	Description	Install Date	Applicable Regulations	Control ID
P-203-W70-404, equipped with internal filter (95%)	Vacuum Conveyor	7.08	NA	NA
MX-203-W70-401	Mixer	STAR	ED-203-W23-150 SC-203-W23-550	S-203-W23-005
MX-203-W70-402	Mixer			

i. Standards

(1) Opacity

Regulation 7.08, section 3.1.1, establishes a standard for opacity to not equal or exceed 20%.

(2) PM/PM₁₀/PM_{2.5}

Regulation 7.08, section 3.1.2, establishes PM standards for process equipment.

(3) TAC

- (a) The owner or operator shall not allow nitric acid emissions to exceed de minimis levels from TT-203-W70-302B, DR-203-W70-501A/B, MX-203-W70-401, and MX-203-W70-402.
- (b) For EP TT-203-W70-302B, DR-203-W70-501A/B, MX-203-W70-401, and MX-203-W70-402, the potential uncontrolled nitric acid emissions are less than de minimis.

(4) VOC

Regulation 7.25 establishes a plant-wide VOC limit of 5 tons per year for all affected facilities, unless Best Available Control Technology (BACT) level of control is utilized to reduce the VOC emissions.

III Other Requirements

1. Temporary Sources

The source did not request to operate any temporary facilities.

2. Short Term Activities

The source did not report any short term activities.

3. Emissions Trading

The source is not subject to emission trading.

4. Alternative Operating Scenarios

The source did not request any alternative operating scenarios.

5. Compliance History Since Last Operating Permit

Date	Description	Penalty	Status
06/11/2015	Visible NOx plume	\$14,250	In compliance
08/31/2015	Visible NOx plume		In compliance
10/27/2015	Visible NOx plume		In compliance
08/22/2017 11/09/2017	Visible NOx plume	\$3000	In compliance
04/13/2017	TAC emissions exceed environmentally acceptable (EA) levels	\$7500	In compliance
04/13/2017	TAC emissions exceed environmentally acceptable (EA) levels		In compliance
01/09/2018 06/10/2018	Visible NOx plume		In compliance
12/04/2018 12/25/2018	Visible NOx plume	\$3750	In compliance
07/31/2019	Failure to complete performance testing	\$40,500	In compliance
01/01/2020 -06/30/2021	Compliance with Title V Permit (combined with West Plant)	\$481,500	Agreed Board Order
01/01/2020 -06/30/2021	Compliance with Title V Permit (combined with West Plant)		

6. Calculation Methodology or Other Approved Method

Generally, emissions are calculated by multiplying the throughput (ton, MMCF, gallons, etc.) or hours of operation of the equipment by the appropriate emission factor and accounting for any control devices unless otherwise approved in writing by the District.

7. Removed Equipment

Unit	Pieces of Equipment
W02	T-201-W02-003 (removed from permit because powder is no longer added to the tank)
W03	M-201-W03-466, DU-201-W03-475/476, H-201-W03-471/CV-201-W03-476, H-201-W03-476, CV-201-W03-480
W04	This EU is out of service and will be removed from the permit.
W05	H-201-W05-111 and BV-201-W05-111

Unit	Pieces of Equipment
W07	T-201-W07-500 and T-201-W07-501
W09	DC-201-W04-001
W11	SEP-201-W11-180
W12	DD-201-W12-210, T-201-W12-210, and SD-201-W12-230a (removed alternate control train eliminating need for separate scenario in permit)
W14	DD-201-W14-001 and ED-201-W14-595
W17	T-201-W17-001, M-201-W17-003, M-201-W17-004, T-201-W17-007, T-201-W17-008, DD-201-W17-001
W19	M-203-W19-001, FD-203-W19-004, M-203-W19-005
W22	TO-203-W22-900
W25	H-203-W25-101, H-203-W25-112, FD-203-W25-129, H-203-W25-129, SDR-203-W25-100, FD-203-W25-134, FD-203-W25-135, GR-203-W25-101, VS-203-W25-101, VS-203-W25-102 ED-203-W25-205
W26	T-203-W26-001, T-203-W26-002, DR-203-W26-001, VS-203-W26-001, PD-203-W26-001, MX-203-W26-003, TR-203-W26-001
W28, W29, W30	Box dryers are out of service and will be removed from the permit.
W32	DR-204-W32-001, H-204-W32-001, VS-204-W32-001, MX-204-W32-001
W34	The entire process is out of service and will be removed from permit
W37	CV-204-W37-001 and CV-204-W37-002
W38	This EU is out of service and will be removed from permit.
W42	T-204-W42-003
W43, W45, W47	These emission units are out of service and will be removed from the permit.
W54	FD-220-W54-004, DD-220-W54-020, CV-220-W54-020, H-220-W54-020 HT-220-W54-001a and V-220-W54-001 (removed alternate control train eliminating need for separate scenario in permit)
W55 ⁴³	DD-250-W55-101, FD-250-W55-901, SSB-250-W55-1017, BE-250-W55-1020, H-250-W55-1020, PA-250-W55-1020, VS-250-W55-1020 and FD-250-W55-1020 ⁴⁴
W57	CV-251-W57-005, DD-251-W57-001, M-251-W57-004, FD-251-W57-004
W70	TS-203-W70-701 and CS-203-W70-701
W71	A previously identified sixth cooling tower (CT-212) has been removed.

⁴³ BE- 250-W55-801 was incorrectly identified as being removed in the original application. It is not being removed.

⁴⁴ FD-250-W55-1020 was incorrectly not identified as being removed in the original application. It is being removed.

8. Range Changes to Monitoring Requirements

EU ID	Equipment ID	Description	Title V Permit Operating Ranges	Revised Ranges
W36	FIL-204-W36-002	HEPA Filter to Erich DC	0.2 – 5” WC	0.01 – 5” WC
W42	FIL-204-W42-001	HEPA Filter to DC-204-SARG	0.05 – 7.5” WC	0.01 – 7.5” WC
W53	FIL-220-W53-006	Belt Calciner (DC-003) HEPA FIL-003	1.5 – 3” WC	0.01 – 7” WC
	FIL-220-W53-007	Belt Calciner (DC-004) HEPA FIL-004	1.5 – 3” WC	0.01 – 7” WC
W54	FIL-220-W54-005	HEPA Filter on DC-005	0.2 – 10” WC	0.01 – 10” WC
	FIL-220-W54-002	HEPA Filter on DC-002	0.2 – 10” WC	0.01 – 10” WC